Just where are you going in that handbasket?

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LCTA

- **How can I keep military training**

  on this installation?

- **How do I collect the information**

  I need to do this?

- **How can I keep this installation**

HOW?

WHAT?

- **What are people in the region most concerned about?**
- **What are the conservation and management "hot buttons" for this land?**
- **What local species and/or habitats are in trouble?**
- **What information will we need a few years down the road to protect training?**

LCTA WHAT?

- What habitats are here?
- What shape are they in?
- What are we gaining?
- What are we losing?
- What's the natural resources political scene with this installation? What's high profile? Why? What's low-profile? Why?
- What are the species of concern?

LCTA

OUTSIDE the BOX

----Not just any data.

----Not just any analysis.

- **What information will address the specific hot buttons for this installation?**
- **What analyses will address these hot buttons?**
- **How far down the road do you need to look to determine what to collect?**

Monitoring is Insurance: Training Lands are Priceless

- You are doing all this data collection just in case someone challenges the military's use of the land? Isn't that a bit expensive?
- You are doing all this training of soldiers just in case someone starts a war? Isn't that a bit expensive?

Monitoring is done to manage natural resource/training interfaces on installations; this is important, but the major role of the data is keeping the places open.

Each installation is different:

- **Training Uses**
- **Conservation Issues**
- **Restoration importance**
- **Climate**
- **Political climate**

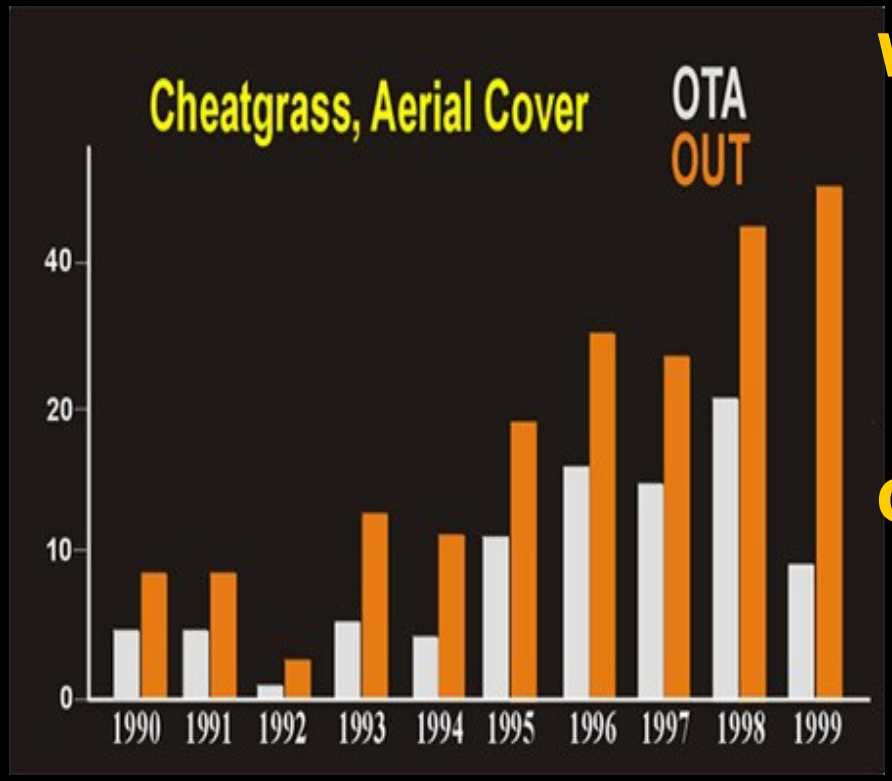
Training Management I

- Of the areas used as Brigade Support Areas in the past 5 years, which are dominated by perennial grasses?
- Which are dominated by exotics other than cheatgrass?
- Which are dominated by cheatgrass?

Training Management II

- Which BSAs remained in the same condition after use?
- Which declined in condition to the point that they need to be rested? If rest is needed:
- Which areas still have acceptable amounts of native perennial grasses, and which do not?

Training Management III



- Why do we need to do plots in the areas we do not use? -- because it is the ONLY way to determine the effects of training.
- Orange bars=outside OTA, gray bars=inside OTA. Our worst invasive is worse outside than inside.

Restoration Planning I

- What areas have no shrub cover?
- What areas have no perennial grass cover?
- What areas have no perennial grass cover but less than ten percent cheatgrass cover?

Restoration Planning II

- What areas have dramatically lost live plant cover this year?
- What areas have dramatically lost live plant cover in the past five years? (Check restoration data to see which of these have not been seeded, or have been unsuccessfully seeded.)

Restoration Planning III

- Which areas have had increasing cheatgrass cover during the past few years, so they are nearly at the “cannot plant into” threshold?
- Which areas are dominated by cheatgrass? Of these, which are in the more-rainfall zone?

Monitoring is done to keep the installations open for business

Each installation is different:

- **Habitat**
- **Training Uses**
- **Conservation Issues**
- **Climate**
- **Political climate**

The job description for the program manager who manages the data collection and analysis:

FUGITIVE DUST
AIR QUALITY
INVASIVES
SQUIRRELS
FIRE
BIRDS
SAGE
WATER QUALITY

AIR QUALITY
INVASIVES
GULLY EROSION
TURTLES
RUNOFF
SOILS
WATER
WATER QUALITY
POLLUTION

It's more than just the data and the analyses.

- It's surfing the internet.
- It's going to meetings.
- It's visiting other agencies and talking to their staff on the phone.
- It's going to symposia, scientific meetings, organizational meetings.
- It's getting on those critical commitees.
- It's reading the local newspapers.
- It's tracking on scientific literature.

- **Before training**
- **During training**
- **When species of concern are active**
- **In each season**
- **During dry times**
- **During wet times**
- **During times when maintenance occurs**

THE TRAINING AREA TELLS YOU WHAT DATA YOU NEED TO COLLECT.

LCTA and Training Defense I

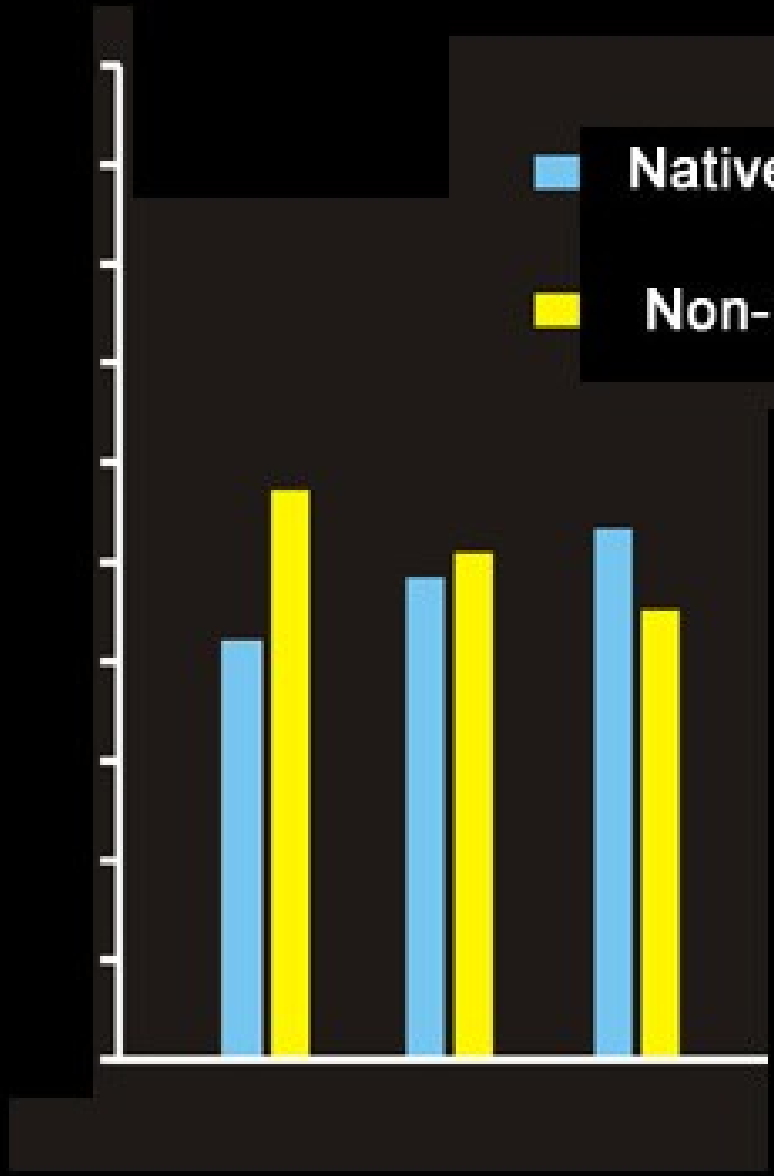
- What is going to be the next hot button for our local opponents?
- What data do we have/need about the hot-button subject?
- Do we need to design an additional data-collection to get what we need?
- What new analyses do we need to address these new concerns?

- What trends must be tracked?
- What things need to be compared?
- What things are red flags?
- What things are green flags?

Trend vs Noise

- In steady-state environments, it takes fewer data points (years) to determine trend.
- In variable environments, it takes many years to determine trend.
- In highly variable environments, it takes more years to determine trend, not just a baseline plus one.

TREND IS NOT TWO POINTS.

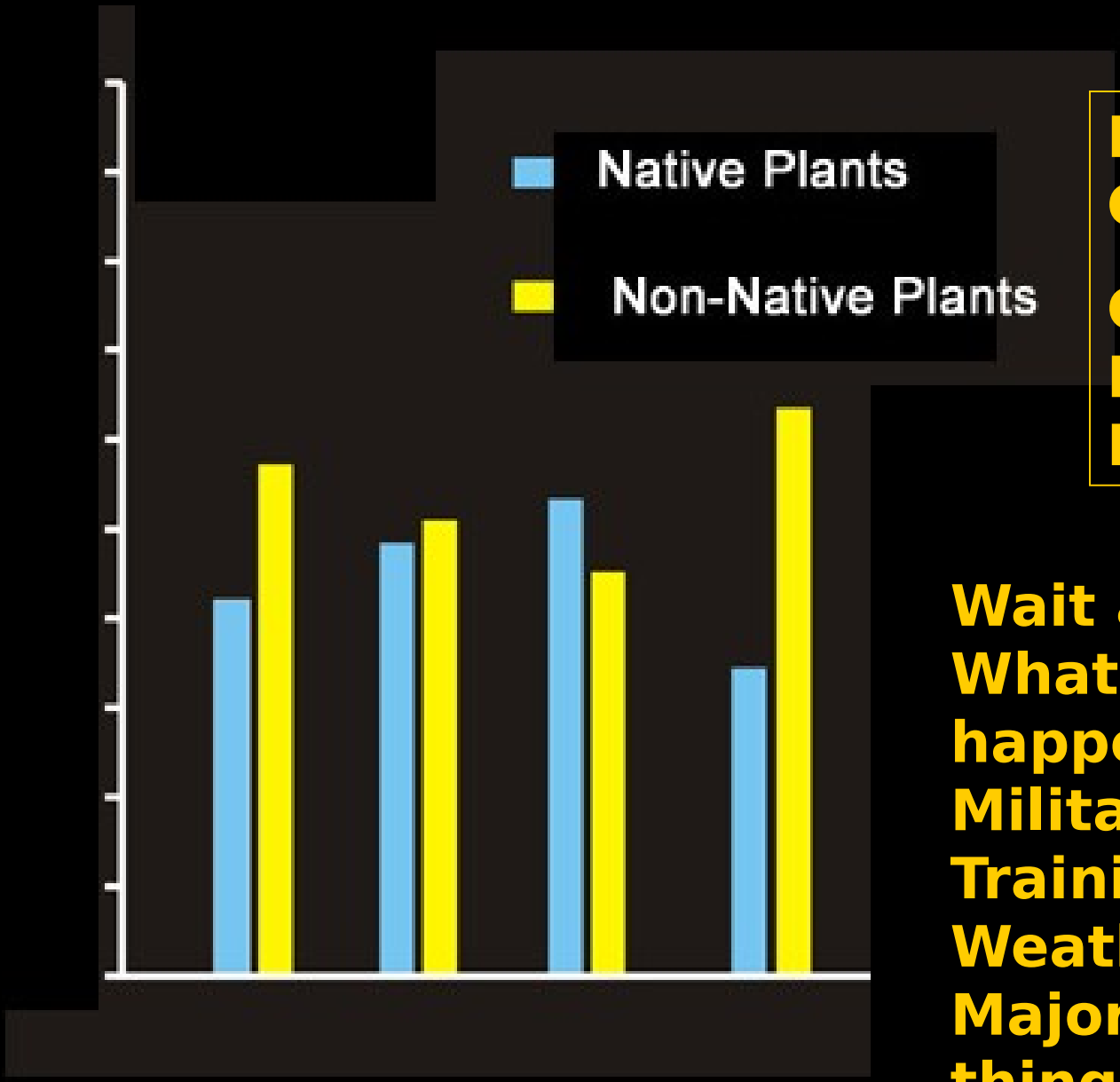


Percent Cover

Core LCTA Plots

Natives going up
Non-Natives going down

LOOKS GOOD



Percent Cover

Core LCTA Plots

Wait a minute! What happened? Military Training? Weather? Major trend thing?

Trend Data Uses

- Is whole area going to hell in handbasket? Or is it improving?
- Are areas not trained upon going to hell in handbasket, too?
- What is the cause of this handbasket trend?
- What is trend and what is noise?

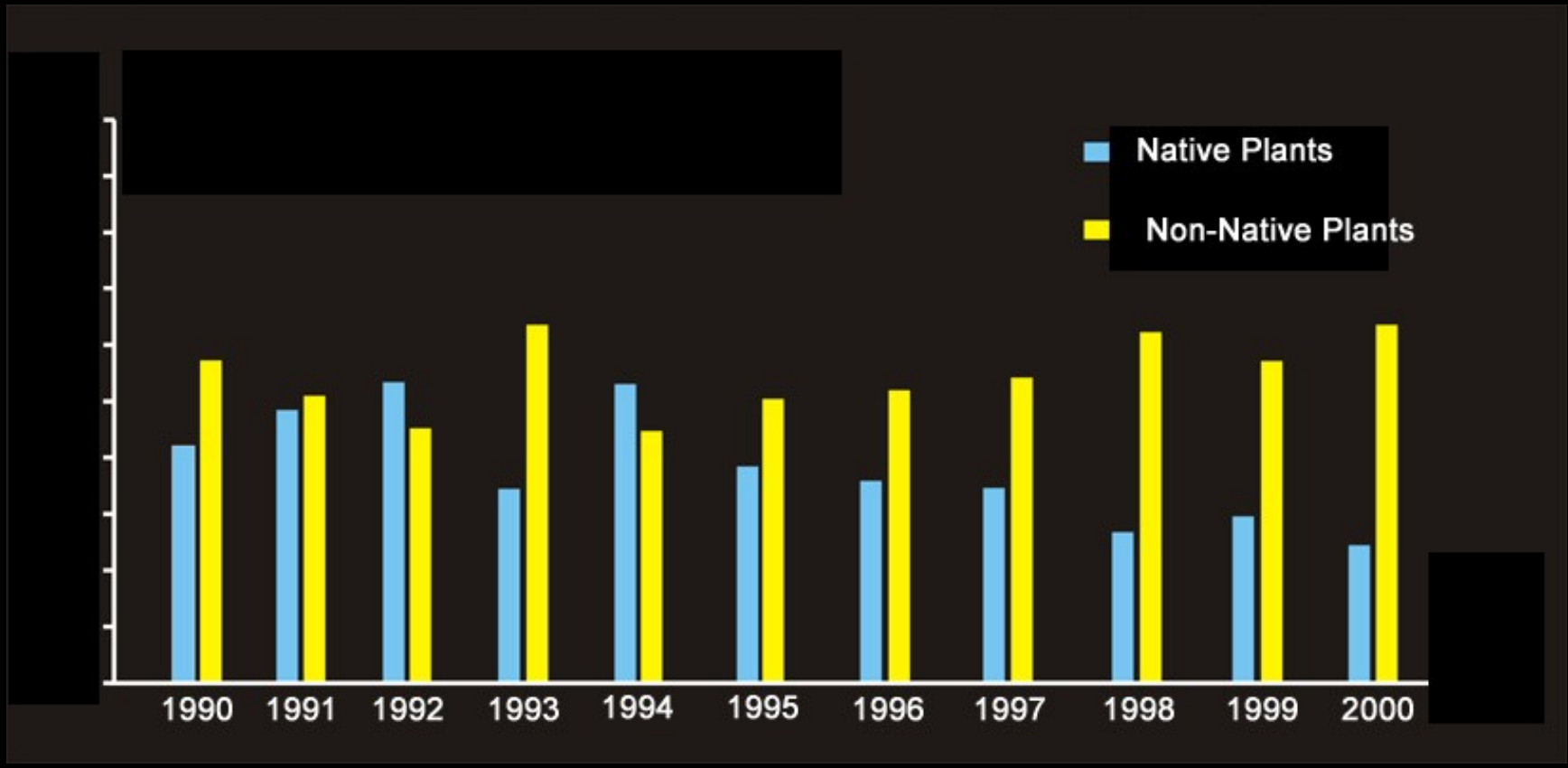
TIME tells the difference.

Comparison Uses

- Are we the same or different than comparable lands?
- I.E., what are the CAUSES of the observable changes?

- What is trend an ?

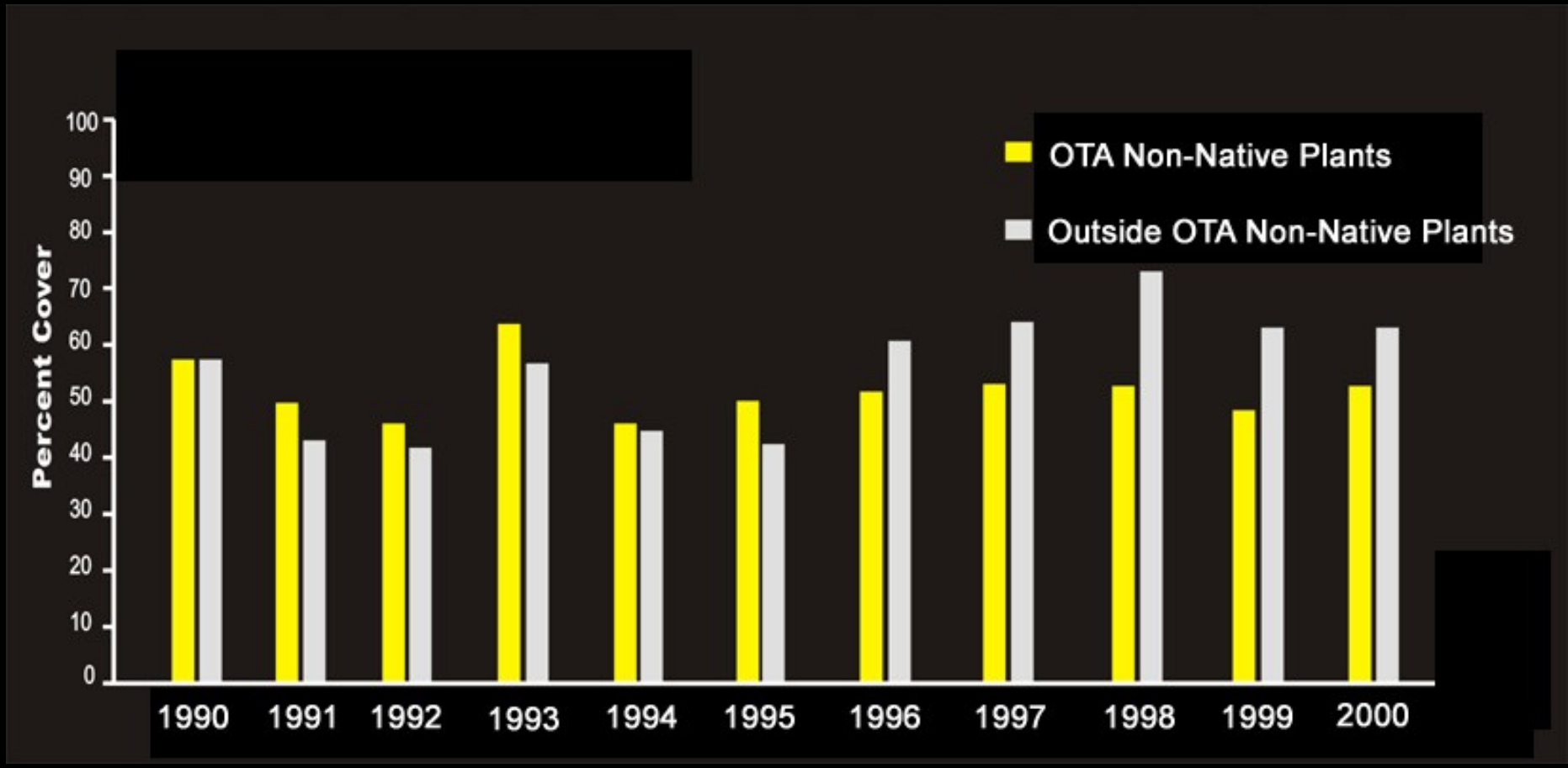
True Trend


Native Plants
Non-Native Plants
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000

Attribution of Trend: Essential

- You need plots in areas not used for military training.
- This is the only way to determine if change is caused by military training --or if the change has another cause.
- OTA has a downward trend in native plants, an upward trend in non-native plants. Bad news.
- However, so do the plots NOT on the OTA. Good news.

Is it just us? No.



LCTA is Dynamic

Must respond to changing needs while keeping the same stuff so can continue with trend data.

Questions to Ask

- How is training affecting the natural resources?
- How can the adverse effects be mitigated?
- What's the mitigation timeline? (If restoration takes 35 years, perhaps prevention is the answer.)
- Are there any positive effects? If so, how can we get some PR mileage from them?

People focused only on the military mission
see this:

Natural resources information is TIME. It's keeping training going.

- It's reading the land.
- It's reading the military impacts.
- It's reading the other impacts.
- It's trend.
- It's policy and politics.
- It's putting it all together.

Seeing Ahead

Seeing Ahead

Seeing Ahead

Seeing Ahead

- What are the major problems in this location?
- What are the major problems in this ecosystem?
- Are these problems caused by military land use?
- If not, what are the causes of these problems?
- What are the major failings of the military use of lands as seen by locals?
- Are these problems real, or are it a PR problem?

Natural Resources problems can seldom be fixed "instantly." Several years are usually needed. This is why you need data to allow you to see ahead to fix things before they go critical. By the time you are in the jaws of the monster, it's too late, especially for a PR "fix."

Seeing Ahead 1

Seeing Ahead 2

Seeing Ahead 3

Not Seeing Ahead

We saw this one coming; we're OK.

What is next for OTA?
. . . and every installation with historic sage lands . . .

What is next for OTA?

Not Seeing Ahead Result

Strong challenges to military land use are here, with more in the pipeline

Trend + experience = seeing ahead.
No trend without data.
No experience without staff.
Continuity of data and of staff is the most important element in keeping training lands open for business.

DQ